UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,043	04/27/2001	Richard Hans Harvey	063170.6290(20000109)	2690

5073	7590	09/28/2006		EXAMINER

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EXAMINER
CORRIELUS, JEAN M

ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 August 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,4-9,12-17,20-22,24-28 and 31-36</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,4-9,12-17,20-22,24-28 and 31-36</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>8/9/06</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the Request for Continued Examination (RCE) filed

on August 9, 2006, in which claims 1, 4-9, 12-17, 20-22, 24-28 and 31-36 are presented for

further examination.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex*

Parte Quayle, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible

for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been

timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114.

Applicant's submission filed on August 9, 2006 has been entered.

Information Disclosure Statement

3.   The information disclosure statement (IDS) filed on August 9, 2006 complies with the

provisions of M.P.E.P 609. It has been placed in the application file. The information referred to

therein has been considered as to the merits.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter, which the applicant regards as his invention.

5.   Claims 1, 5, 9, 13, 17, 28, 32 and 36 are rejected under 35 U.S.C. 112, second paragraph,

as being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention. Claims 1, 5, 9, 13, 17, 28, 32 and 36 recite "it is" line 2

respectively. Pronouns are not permitted, only what is being referred by "it" should be set forth

in the claim. Applicants are advised to amend the claim so solve the 112 rejection set forth in the

claim.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a whole
> would have been obvious at the time the invention was made to a person having ordinary
> skill in the art to which said subject matter pertains. Patentability shall not be negatived
> by the manner in which the invention was made.

7.   Claims 1, 3-9, 11-17, 19-22, 24-28 and 30-36 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Applicant's admitted prior art (see specification pages 1-6, line 11) and

Com et al., (hereinafter "Com") US Patent no. 6,356,892.

As to claim 1, Applicant's admitted prior art discloses the claimed "receiving a service query, the

service query comprising a filter that comprises one ore more filter items" as a X.500 search

service is performed using arguments which indicate where to start the search, the condition to

apply to the search (filters) and what information should be returned (selection), wherein a user

may wish to interrogate a directory in order to locate titles of managers of an organization who

have salaries above $60,000.00, and have a mobile phone listed in the database or who are not in

certain offices of the organization, wherein such a request could carried by way of a search query

wherein: title=manager AND salary > 60000 AND (mobile Phone present OR (NOT

locality=Melb OR locality = Syd), which can express as a logical expression A.B.(C+!(D+E));

the filter items are presented by letters (A,B, C, D and E) (see applicant's admitted prior art,

specification page 1, line 18-page 2 line 11); "expanding the filter of the service query" as a logic

principle, boolean logic, an arbitrarily complex search filter can be expanded to a number of

relatively simpler terms, by removing the brackets in the complex search filter, resulting in an

expression which is an OR of ANDs which is also known as a sum of term; wherein the

expression !(A.B) results in the filter terms : !A + !B (see applicant's admitted prior art,

specification page 3, line 12-page 4 line 20). However, applicant's admitted prior art does not

explicitly disclose the use of "determining if the filter item comprises a NOT connective and a

type only filter item, applying a logical methodology to evaluate the not connective, the logical

methodology comprising expanding an expression of the filter item so that the filter item does

not comprise the NOT connective"

On the other hand, Corn is directed to a method for searching a relational database using

hierarchical, filter-based queries. In particular, Corn discloses the claimed "applying a condition

test to each filter item of the filter" by mapping an LDAP filter into an SQL query using unique

identifier sets by determining whether the logical operators are OR, AND, NOT, wherein

mapping the LDAP logical OR operation to an SQL UNION, mapping the LDAP logical

operation AND to SQL INTERCEPT and mapping the LDAP logical operation NOT to SQL

NOT IN (col.3, lines 3-20; col.5, lines 35-48; col.7, lines 50-55; col.8, lines 40-67); "determining

if the filter item comprises a NOT connective and a type only filter item, applying a logical

methodology to evaluate the not connective, the logical methodology comprising expanding an

expression of the filter item so that the filter item does not comprise the NOT connective"

determining whether the NOT logical operator is present and expanding the filter item, wherein

the LDAP filter does not contain the NOT logical operator (col.7, lines 50-55; col.8, lines 40-67;

col.9, lines 8-17). Therefore, it would have bee obvious to one having ordinary skill in the art at

the time the invention was made to combine the teachings of the cited references, wherein the

filter expansion of the query service, as disclosed by the applicant's admitted prior art would

incorporate the use of applying a test condition to each filter item to determine whether the filter

item comprises a NOT connective, if so use a logical methodology to evaluate the NOT

connective, as the same conventional manner as disclosed by Corn. One having ordinary skill in

the art would have found it motivated to use such a applied test in the Applicant's admitted prior

art combination for the purpose of mapping the LDAP filter into an SQL query thereby

providing better performance results.

As to claim 3, Corn discloses the claimed "applying a logical methodology to evaluate NOT

connectives associated with type only filter items" (col.7, lines 50-55; col.8, lines 40-67).

As to claim 4, Corn discloses the claimed "wherein the logical methodology comprises a

subtraction" (col.8, lines 56-60).

As to claim 5, Corn discloses the claimed "if it is determined that the filter item comprises a

NOT connective and a type and value filter item pushing the NOT connective associated with the

type and value filter item inside the filter item, resulting in changing an operator inside the filter item" (col.8, lines 40-60).

As to claims 6-7, Applicant's admitted prior art discloses the claimed wherein the condition test further includes determining if each filter item can be pre-evaluated to false, such that the expanded term can be ignored as using logic principle, boolean logic, an arbitrarily complex search filter can be expanded to a number of relatively simpler terms, by removing the brackets in the complex search filter, resulting in an expression which is an OR of ANDs which is also known as a sum of term; wherein the expression !(A.B) results in the filter terms : !A + !B (see applicant's admitted prior art, specification page 3, line 12-page 4 line 20).

As to claim 8, Applicant's admitted prior art discloses the claimed wherein the filter is expanded to a minimum set of terms as using logic principle, boolean logic, an arbitrarily complex search filter can be expanded to a number of relatively simpler terms, by removing the brackets in the complex search filter, resulting in an expression which is an OR of ANDs which is also known as a sum of term; wherein the expression (A.B) results in the filter terms:! A +! B (see applicant's admitted prior art, specification page 3, line 12-page 4 line 20).

Claims 9 and 11-16 are system of claims for performing the method of claims 1 and 3-8 above. They are, therefore, rejected under the same rationale.

Claim 36 is software for executing the method of claim 1 above. It is, therefore, rejected under

the same rationale.

As to claim 17, Applicant's admitted prior art discloses the claimed "receiving a service

query" as a X.500 search service is performed using arguments which indicate where to

start the search, the condition to apply to the search (filters) and what information

should be returned (selection), wherein a user may wish to interrogate a directory in

order to locate titles of managers of an organization who have salaries above

$60,000.00, and have a mobile phone listed in the database or who are not in certain

offices of the organization, wherein such a request could carried by way of a search

query wherein: title=manager AND salary > 60000 AND (mobile Phone present OR

(NOT locality=Melb* OR locality = Syd*))), which can express as a logical expression

A.B.(C+!(D+E)); the filter items are presented by letters (A,B, C, D and E) (see

applicant's admitted prior art, specification page 1, line 18-page 2 line 11). However,

applicant's admitted prior art does not explicitly disclose the use of "determining if the filter item

comprises a NOT connective and a type only filter item, applying a logical methodology to

evaluate the not connective, the logical methodology comprising expanding an expression of the

filter item so that the filter item does not comprise the NOT connective"

On the other hand, Corn is directed to a method for searching a relational database using

hierarchical, filter-based queries. In particular, Corn discloses the claimed "applying a condition

test to each filter item of the filter" by mapping an LDAP filter into an SQL query using unique

identifier sets by determining whether the logical operators are OR, AND, NOT, wherein

mapping the LDAP logical OR operation to an SQL UNION, mapping the LDAP logical

operation AND to SQL INTERCEPT and mapping the LDAP logical operation NOT to SQL

NOT IN (col.3, lines 3-20; col.5, lines 35-48; col.7, lines 50-55; col.8, lines 40-67); "determining

if the filter item comprises a NOT connective and a type only filter item, applying a logical

methodology to evaluate the not connective, the logical methodology comprising expanding an

expression of the filter item so that the filter item does not comprise the NOT connective"

determining whether the NOT logical operator is present and expanding the filter item, wherein

the LDAP filter does not contain the NOT logical operator (col.7, lines 50-55; col.8, lines 40-67;

col.9, lines 8-17). Therefore, it would have bee obvious to one having ordinary skill in the art at

the time the invention was made to combine the teachings of the cited references, wherein the

filter expansion of the query service, as disclosed by the applicant's admitted prior art would

incorporate the use of applying a test condition to each filter item to determine whether the filter

item comprises a NOT connective, if so use a logical methodology to evaluate the NOT

connective, as the same conventional manner as disclosed by Corn. One having ordinary skill in

the art would have found it motivated to use such a applied test in the Applicant's admitted prior

art combination for the purpose of mapping the LDAP filter into an SQL query thereby

providing better performance results.

As to claim 19, Corn discloses the claimed "evaluating the filter item in accordance with a

logical methodology if the filter item is type only form" " (col.7, lines 50-55; col.8, lines 40-67).

As to claim 20, Corn discloses the claimed "wherein the logical methodology comprises a

subtraction" (col.8, lines 56-60).

As to claim 21, Applicant should duly note that Corn discloses and SQL sub query which is

generated for each LDAP filter element according to a set of translation rules, wherein such SQL

sub query contain a relational database schema specified using conventional ANSI SQL

language, wherein such a schema defines the tables that compose an application, along with their

fields, and descriptive fields. Because relational schema are well understood, and ANSI SQL

syntax is well documented, the primary task of the LDAP filter element is to map the syntax

LDAP query to the corresponding ANSI SQL syntax. Therefore, Corn discloses the claimed

"wherein the subtraction method ' comprises using an ANSI SQL "except"' clause.

As to claim 22, Corn discloses the claimed "wherein the subtraction method comprises

transforming each filter item to a form that contains fewer or no NOT connectives" (col.7, lines

50-55).

As to claim 24, Corn discloses the claimed "adding, if the filter item is a type and value form

SQL representing the filter item to an expression to be evaluated', which may involve at least one

table join" (col.10, lines 55-67).

As to claim 25, Corn discloses the claimed "if the filter item is an inverse of the type and value filter item, pushing the NOT connective inside the filter item" (col.8, lines 40-50).

As to claim 26, Corn discloses the claimed "applying the pushed NOT connective to an operator" (col.8, lines 40-50).

As to claim 27 Corn discloses the claimed "applying the pushed NOT is effected by inverting the operator" (col.8, lines 40-50).

As to claim 28, Applicant's admitted prior art discloses the claimed "a plurality of tables, each table comprising a plurality of rows and columns, operable to store arbitrary data, at least one of the tables has comprising information for resolving filters that comprise at least one filter item in a search service" as a X.500 search service is performed using arguments which indicate where to start the search, the condition to apply to the search (filters) and what information should be returned (selection), wherein a user may wish to interrogate a directory in order to locate titles of managers of an organization who have salaries above $60,000.00, and have a mobile phone listed in the database or who are not in certain offices of the organization, wherein such a request could carried by way of a search query wherein: title=manager AND salary > 60000 AND (mobile Phone present OR (NOT locality=Melb OR locality = Syd))), which can express as a logical expression A.B.(C+!(D+E)); the filter items are presented by letters (A,B, C, D and E) (see applicant's admitted prior art, specification page 1, line 18-page 2 line 11). However, applicant's admitted prior art does not explicitly disclose the use of "determining if the filter item

comprises a NOT connective and a type only filter item, applying a logical methodology to

evaluate the not connective, the logical methodology comprising expanding an expression of the

filter item so that the filter item does not comprise the NOT connective". On the other hand,

Corn is directed to a method for searching a relational database using hierarchical, filter-based

queries. In particular, Corn discloses the claimed "applying a condition test to each filter item of

the filter" by mapping an LDAP filter into an SQL query using unique identifier sets by

determining whether the logical operators are OR, AND, NOT, wherein mapping the LDAP

logical OR operation to an SQL UNION, mapping the LDAP logical operation AND to SQL

INTERCEPT and mapping the LDAP logical operation NOT to SQL NOT IN (col.3, lines 3-20;

col.5, lines 35-48; col.7, lines 50-55; col.8, lines 40-67); "determining if the filter item comprises

a NOT connective and a type only filter item, applying a logical methodology to evaluate the not

connective, the logical methodology comprising expanding an expression of the filter item so

that the filter item does not comprise the NOT connective" determining whether the NOT logical

operator is present and expanding the filter item, wherein the LDAP filter does not contain the

NOT logical operator (col.7, lines 50-55; col.8, lines 40-67; col.9, lines 8-17). Therefore, it

would have bee obvious to one having ordinary skill in the art at the time the invention was made

to combine the teachings of the cited references, wherein the filter expansion of the query

service, as disclosed by the applicant's admitted prior art would incorporate the use of applying a

test condition to each filter item to determine whether the filter item comprises a NOT

connective, if so use a logical methodology to evaluate the NOT connective, as the same

conventional manner as disclosed by Corn. One having ordinary skill in the art would have found

it motivated to use such a applied test in the Applicant's admitted prior art combination for the

purpose of mapping the LDAP filter into an SQL query thereby providing better performance

results.

As to claim 30, Corn discloses the claimed "wherein a logical methodology is applied to evaluate

NOT connectives associated with type only filter items" (col.7, lines 50-55; col.8, lines 40-67).

As to claim 31, Corn discloses the claimed "wherein the logical methodology comprises a

subtraction" (col.8, lines 56-60).

As to claim 32, Corn discloses the claimed "wherein, if it is determined that the filter item

comprises a NOT connective and a type and value filter item, a NOT connective associated with

a type and value filter item is pushed inside the filter item resulting in changing an operator

inside the filter item " (col.8, lines 40-60).

As to claims 33-35, Applicant's admitted prior art discloses the claimed wherein the condition

test further includes determining if each filter item can be pre-evaluated to false or true, such that

the expanded term can be ignored as using logic principle, boolean logic, an arbitrarily complex

search filter can be expanded to a number of relatively simpler terms, by removing the brackets

in the complex search filter, resulting in an expression which is an OR of ANDs which is also

known as a sum of term; wherein the expression !(A.B) results in the filter terms : !A + !B (see

applicant's admitted prior art, specification page 3, line 12-page 4 line 20).
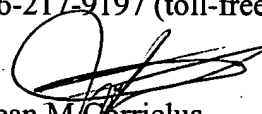
Conclusion

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jean M. Corrielus whose telephone number is (571) 272-4032.

The examiner can normally be reached on 10 hours shift.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jean M. Corrielus
Primary Examiner
Art Unit 2162

September 23, 2006